**Notes: Factoring Trinomials Using Boxes** Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Directions: Factor the trinomial in the form of **.**

Step 1: Identify a, b, and c.

Step 2: Find two numbers who product is and whose sum is *b*.

Step 3: Fill in the box.

|  |  |
| --- | --- |
|  | 1st # x |
| 2nd # x | *c* |

Step 4: Find the GCF of each row and column.

Step 5: Write the final answer in the form of .

**Example #1: Factor**

Step 1: a = \_\_\_\_\_ b = \_\_\_\_\_ c = \_\_\_\_\_

|  |  |  |
| --- | --- | --- |
| Numbers | Sum 🡪 *b* | Product 🡪 |
|  |  |  |

Step 2:

Step 3: Fill in the box.

|  |  |
| --- | --- |
|  |  |
|  |  |

Step 4: Find the GCF of each row and column.

Step 5: Write the final answer in the form of .

**Example #2: Factor**

Step 1: a = \_\_\_\_\_ b = \_\_\_\_\_ c = \_\_\_\_\_

|  |  |  |
| --- | --- | --- |
| Numbers | Sum 🡪 *b* | Product 🡪 |
|  |  |  |

Step 2:

Step 3: Fill in the box.

|  |  |
| --- | --- |
|  |  |
|  |  |

Step 4: Find the GCF of each row and column.

Step 5: Write the final answer in the form of.

**Example #3: Factor**

Step 1: a = \_\_\_\_\_ b = \_\_\_\_\_ c = \_\_\_\_\_

|  |  |  |
| --- | --- | --- |
| Numbers | Sum 🡪 *b* | Product 🡪 |
|  |  |  |

Step 2:

Step 3: Fill in the box.

|  |  |
| --- | --- |
|  |  |
|  |  |

Step 4: Find the GCF of each row and column.

*Note: If the top or left box has a negative, then the GCF is negative.*

Step 5: Write the final answer in the form of .

**Factor the Trinomials Using Boxes** Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**1. Factor**

Step 1: a = \_\_\_\_\_ b = \_\_\_\_\_ c = \_\_\_\_\_

|  |  |  |
| --- | --- | --- |
| Numbers | Sum 🡪 *b* | Product 🡪 |
|  |  |  |

Step 2:

Step 3: Fill in the box.

|  |  |
| --- | --- |
|  |  |
|  |  |

Step 4: Find the GCF of each row and column.

*Note: If the top or left box has a negative, then the GCF is negative.*

Step 5: Write the final answer in the form of .

**2. Factor**

Step 1: a = \_\_\_\_\_ b = \_\_\_\_\_ c = \_\_\_\_\_

|  |  |  |
| --- | --- | --- |
| Numbers | Sum 🡪 *b* | Product 🡪 |
|  |  |  |

Step 2:

Step 3: Fill in the box.

|  |  |
| --- | --- |
|  |  |
|  |  |

Step 4: Find the GCF of each row and column.

*Note: If the top or left box has a negative, then the GCF is negative.*

Step 5: Write the final answer in the form of .

**3. Factor**

Step 1: a = \_\_\_\_\_ b = \_\_\_\_\_ c = \_\_\_\_\_

|  |  |  |
| --- | --- | --- |
| Numbers | Sum 🡪 *b* | Product 🡪 |
|  |  |  |

Step 2:

Step 3: Fill in the box.

|  |  |
| --- | --- |
|  |  |
|  |  |

Step 4: Find the GCF of each row and column.

*Note: If the top or left box has a negative, then the GCF is negative.*

Step 5: Write the final answer in the form of .

**4. Factor**

Step 1: a = \_\_\_\_\_ b = \_\_\_\_\_ c = \_\_\_\_\_

|  |  |  |
| --- | --- | --- |
| Numbers | Sum 🡪 *b* | Product 🡪 |
|  |  |  |

Step 2:

Step 3: Fill in the box.

|  |  |
| --- | --- |
|  |  |
|  |  |

Step 4: Find the GCF of each row and column.

*Note: If the top or left box has a negative, then the GCF is negative.*

Step 5: Write the final answer in the form of .

Now make your own boxes, on a separate sheet of paper, to factor the following trinomials.

5. 6. 7. 8. 9.

10. 11. 12. 13. 14.